



## Excess cardiovascular mortality associated with cold spells in the Czech Republic

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### Abstract:

**BACKGROUND:** The association between cardiovascular mortality and winter cold spells was evaluated in the population of the Czech Republic over 21-yr period 1986-2006. No comprehensive study on cold-related mortality in central Europe has been carried out despite the fact that cold air invasions are more frequent and severe in this region than in western and southern Europe. **METHODS:** Cold spells were defined as periods of days on which air temperature does not exceed -3.5 degrees C. Days on which mortality was affected by epidemics of influenza/acute respiratory infections were identified and omitted from the analysis. Excess cardiovascular mortality was determined after the long-term changes and the seasonal cycle in mortality had been removed. Excess mortality during and after cold spells was examined in individual age groups and genders. **RESULTS:** Cold spells were associated with positive mean excess cardiovascular mortality in all age groups (25-59, 60-69, 70-79 and 80+ years) and in both men and women. The relative mortality effects were most pronounced and most direct in middle-aged men (25-59 years), which contrasts with majority of studies on cold-related mortality in other regions. The estimated excess mortality during the severe cold spells in January 1987 (+274 cardiovascular deaths) is comparable to that attributed to the most severe heat wave in this region in 1994. **CONCLUSION:** The results show that cold stress has a considerable impact on mortality in central Europe, representing a public health threat of an importance similar to heat waves. The elevated mortality risks in men aged 25-59 years may be related to occupational exposure of large numbers of men working outdoors in winter. Early warnings and preventive measures based on weather forecast and targeted on the susceptible parts of the population may help mitigate the effects of cold spells and save lives.

**Source:** <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2632656>

### Resource Description

#### Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

#### Communication Audience:

audience to whom the resource is directed

Public

# Climate Change and Human Health Literature Portal

## Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

## Exposure :

weather or climate related pathway by which climate change affects health

Temperature

**Temperature:** Extreme Cold

## Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

## Geographic Location:

resource focuses on specific location

Non-United States

**Non-United States:** Europe

**European Region/Country:** European Country

**Other European Country :** Czech Republic

## Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Injury

## Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

## Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

**Population of Concern:** A focus of content

## Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Elderly, Workers

## Resource Type:

## Climate Change and Human Health Literature Portal

format or standard characteristic of resource

Research Article

### **Timescale:**

time period studied

Time Scale Unspecified

### **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content